Predicting the Recovery Status of Ischemic Stroke Patients Undergoing Ayurvedic Treatment Using a Machine Learning Model

Darsika Rajanikanth* and W. A. M. Prabuddhi

Department of Information and Communication Technology, Faculty of Technology, University of Ruhuna, Matara, Sri Lanka.

** rajanikanth_2019509@fot.ruh.ac.lk*

Abstract

Ischemic stroke is a type of stroke disease that appears due to a violation of blood circulation in the blood vessels of the brain. People aged 40-60 are highly affected, and men are more significantly impacted due to lifestyle factors such as smoking, unhealthy eating habits, and excessive alcohol consumption. Ayurvedic treatment emphasizes a balanced lifestyle, natural therapies, and dietary interventions, which are considered a beneficial traditional approach for stroke recovery. Collecting patient data and analyzing it to determine their health status requires a significant amount of time. To address this issue, a machine learning approach using a decision tree model has been developed to predict recovery status in ischemic stroke patients following Ayurvedic treatment. This model helps healthcare professionals assess patients' post-treatment conditions more efficiently. The data collection process involved gathering patient records from neurology and Ayurvedic treatment units, including laboratory results, demographic information, and treatment adherence data. Preprocessing steps, such as handling missing values, feature selection, and normalization, were applied to ensure the quality and usability of the data for the model. In conclusion, a system is developed to analyze each patient's improvement level across various conditions and predict their health status, specifically focusing on identifying recovery levels, facilitating the inclusion of new data, and providing a clear display of the analysis results.

Keywords: *Ischemic Stroke, Blood Vessels, Neurology, Decision Tree, Normalization*